

IN THE CLAIMS:

1. An isolated polynucleotide comprising a nucleotide sequence at least about ninety percent (90%) homologous to a sequence selected from the group consisting of SEQ ID NOS: 1-3.
2. An isolated polynucleotide of claim 1, wherein said polynucleotide encodes an integrase.
3. An isolated polynucleotide of claim 1, wherein said polypeptide encodes an excisionase.
4. An isolated polynucleotide of claim 1, wherein said polypeptide encodes an integrase attachment site.
5. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of SEQ ID NOS: 1-3.
6. A recombinant vector comprising one or more of a nucleotide sequence at least about ninety percent (90%) homologous to a sequence selected from the group consisting of SEQ ID NOS: 1-3.
7. A recombinant vector comprising one or more of SEQ ID NOS: 1-3.
8. A recombinant vector comprising SEQ ID NOS: 1-3.
9. The recombinant vector of claim 6, wherein said vector is an integrating vector.
10. The recombinant vector of claim 7, wherein said vector is an integrating vector.
11. A host cell comprising the vector of claim 6.
- 20 12. A host cell comprising the vector of claim 7.
13. The host cell of claim 11, wherein said host cell is bacterial.
14. The host cell of claim 13, wherein said host cell is an actinomycete.
15. The host cell of claim 14, wherein said host cell belongs to the genus *Micromonospora*.
16. The host cell of claim 12, wherein said host cell is an actinomycete.

17. The host cell of claim 16, wherein said actinomycete belongs to the genus
Micromonospora.

18. A method for transforming an actinomycete with a vector comprising:

- 5 a) isolating a polynucleotide comprising a nucleotide sequence at least ninety percent (90%) homologous to a sequence selected from the group consisting of SEQ ID NOS: 1-3;
- b) inserting said polynucleotide or polynucleotides into a vector;
- c) exposing said actinomycete to said vector under conditions permitting for transformation of said actinomycete.

10 19. The method of claim 18, wherein said polynucleotide comprises one or more of SEQ ID NOS: 1-3.

20. The method of claim 19, wherein said polynucleotide comprises all of the nucleotide sequences set forth in SEQ ID NOS: 1-3.

15 21. The method of claim 20, wherein said method further comprises introducing a promoter into said vector.

22. An isolated polynucleotide comprising a nucleotide sequence at least about ninety percent (90%) homologous to a sequence selected from the group consisting of SEQ ID NOS: 4-9.

23. The isolated polynucleotide of claim 22 wherein said nucleotide sequence is set forth in SEQ ID NOS: 4-9.